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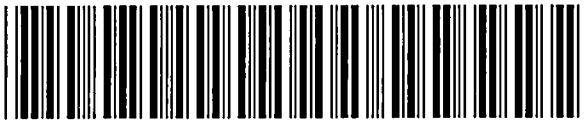

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Site Name MOHAWK-KARASTAN

DocumentType Site Assessment Rpt (SAR)

RptSegment 1

DocDate 11/16/1993

DocRcvd 8/19/2008

Box SF4070

AccessLevel PUBLIC

Division WASTE MANAGEMENT

Section SUPERFUND

Program IHS (IHS)

DocCat FACILITY

SOIL SAMPLING INVESTIGATION

BIGELOW-KARASTAN MILL
GREENVILLE, NORTH CAROLINA

prepared for:

Fieldcrest Cannon, Inc.
Engineering Department
P.O. Box 107
Kannapolis, NC 28082

November 16, 1993

PYRAMID ENVIRONMENTAL, INC.
2706 PINEDALE ROAD
GREENSBORO, NC 27408
(919) 282-9030

Willie
Please review and prepare a response re the issue of whether a CAP or any further action is necessary. Thanks
12/16/93

1723

FIELDCREST CANNON, INC.

KANNAPOLIS, NORTH CAROLINA 28081

December 7, 1993

Corporate Engineering
(704) 939-2493

Mr. Jim Mulligan
Washington Regional Supervisor
NC DEHNR
P. O. Box 2188
1424 Carolina Avenue
Washington, NC 27889

Dear Mr. Mulligan:

RE: Fieldcrest Cannon, Inc.
Greenville Spinning
Response - NOV - 9/16/93

Enclosed with this letter are assessment reports for additional information required in your Notice of Violation for soil and groundwater contamination.

To correct the violations the following items have been completed:

1. The contamination noted in the assessment report dated July 8, 1993 was excavated on September 24, 1993. Mr. Bill Crew of the Washington Regional office was on site during the excavation. An additional five soil samples were obtained to evaluate the pit and stockpile. This is documented in Pyramid Environmental, Inc. report dated November 16, 1993 soil investigation. The source of this contamination was eliminated by removal and abandonment of the two 10,000 gallon fuel oil tanks. This was documented in Pyramid Environmental report dated July 8, 1993.

2. The contaminated soil that was excavated will be treated on site. A permit application has been prepared by Pyramid Environmental and submitted to the Washington Regional Office. Three groundwater monitoring wells were placed downgraident of these two 10,000 gallon tanks. Analysis from two separate sampling events indicated that all constituents listed in Method 602 and Method 625 are within NC allowable levels. Samples from the excavation indicate that remaining TPH concentrations are below 250 ppm.

FIELDCREST CANNON, INC.

3/4. The information contained in the soil and groundwater reports included with this letter should document that no contamination remains on site. Therefore, it is our determination that a Corrective Action Plan is not necessary and that no further action is necessary at this site.

If you need any additional information or have any questions concerning these reports, please contact the Fieldcrest Cannon Engineering Department @ (704) 939-2654.

Sincerely,

Barbara Sifford

Barbara R. Sifford
Environmental Controls Coordinator

BRS/dhr

Enclosure

pc: E. H. Rowell
M. R. Townsend
C. E. Weatherington
C. E. Mills

TABLE OF CONTENTS

Soil Sampling Investigation
Bigelow-Karastan Mill
Greenville, North Carolina

1.0 INTRODUCTION

On May 20, 1993 an underground storage tank (UST) contractor excavated and removed one 10,000 gallon UST, and closed another in place at Fieldcrest Cannon's Bigelow-Karastan Mill in Greenville, North Carolina (Figure 1). The USTs had been used to store #5 fuel oil. On June 9, 1993, Pyramid Environmental Inc. conducted an underground storage tank (UST) closure assessment for the above referenced tanks. The two 10,000 gallon USTs were located in a single pit adjacent to the main building. The tank closest to the building was closed in place due to its proximity to a structural wall of the plant.

One soil sample (S1) taken from the up-gradient end of the UST closed in place revealed a TPH concentration of 29,000 ppm. The other soil samples taken at the time of the UST closure assessment revealed only minor TPH concentrations.

On September 24, 1993 Pyramid Environmental staff arrived at the Bigelow-Karastan Mill in Greenville, North Carolina to conduct a soil sampling investigation. The purpose of this sampling was to further investigate the extent of contamination in the area of sample S1 from the UST closure assessment. A total of five soil samples were extracted during this sampling event. Samples 1 and 2 were taken at a depth of 11.5 feet (from the same auger hole). Sample 3 was taken at a depth of 11 feet, approximately 3.5 feet northwest of the first two samples. The locations of these samples (and the previous samples) are indicated on Figure 2. The fourth and fifth samples were taken from stockpiled soil. One composite sample was taken from each of two stockpiles. The complete sampling methodology is included in Appendix I.

2.0 RESULTS

Samples 1 and 3, and the two composite stockpile samples were analyzed for Total Petroleum Hydrocarbons (TPH) by EPA Method 3550. Sample 2 was analyzed by EPA Method 9071. Table I on the following page summarizes the results. A copy of the Laboratory analysis is included in Appendix II.

TABLE I

Sample Number	EPA Method	Testing Standard	Depth in feet	TPH	Date Collected
1	3550	#6 Fuel Oil	11.5	48.3	9/24/93
2	9071	Oil/Grease	11.5	286	9/24/93
3	3550	#6 Fuel Oil	11	16.1	9/24/93
Comp 1	3550	#6 Fuel Oil	---	185	9/24/93
Comp 2	3550	#6 Fuel Oil	---	80	9/24/93

Analysis in parts per million
* Comp = Composite Sample

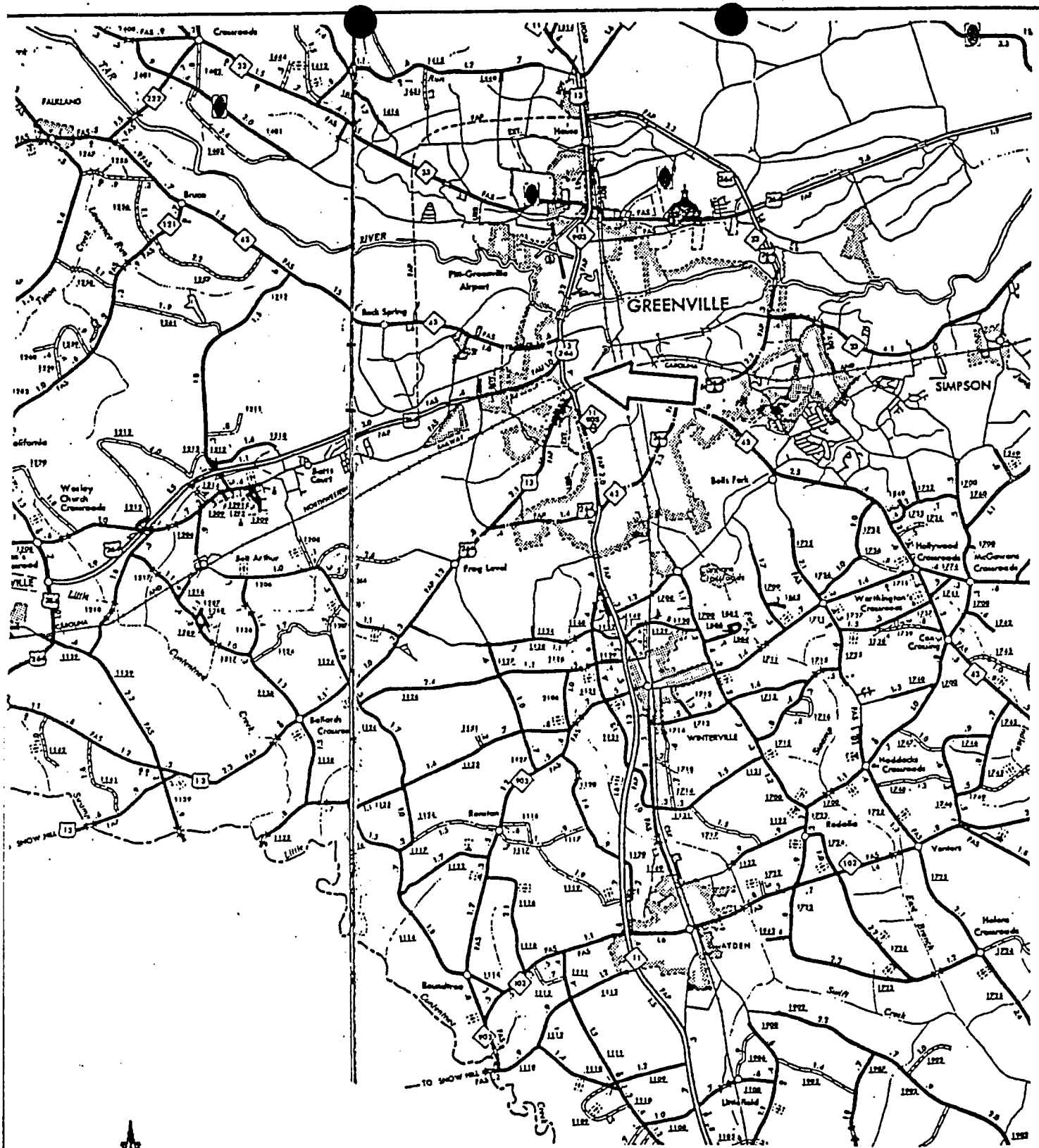
3.0 CONCLUSIONS

A Site Sensitivity Evaluation (SSE) was performed on the site to determine the maximum total petroleum hydrocarbon (TPH) concentrations allowed by the state to remain in the soil without remediation (i.e.- the clean-up level). The subject site is a category "E" site, having no water supply wells within 1500 feet and in an area supplied with municipal water. The results of the SSE indicate that clean-up levels for this site are 1200 ppm (parts per million) for EPA method 3550 analysis, and 3000 ppm for method 9071. The SSE forms are included in this report as Appendix A.

The maximum concentrations found in the soil samples from this site are 48.3 ppm (method 3550) and 286 ppm (method 9071). Since these values are below the clean-up levels, no further remediation of the soil is requested by the state. Pyramid Environmental, Inc. recommends no further action regarding soil remediation in the vicinity of the USTs.

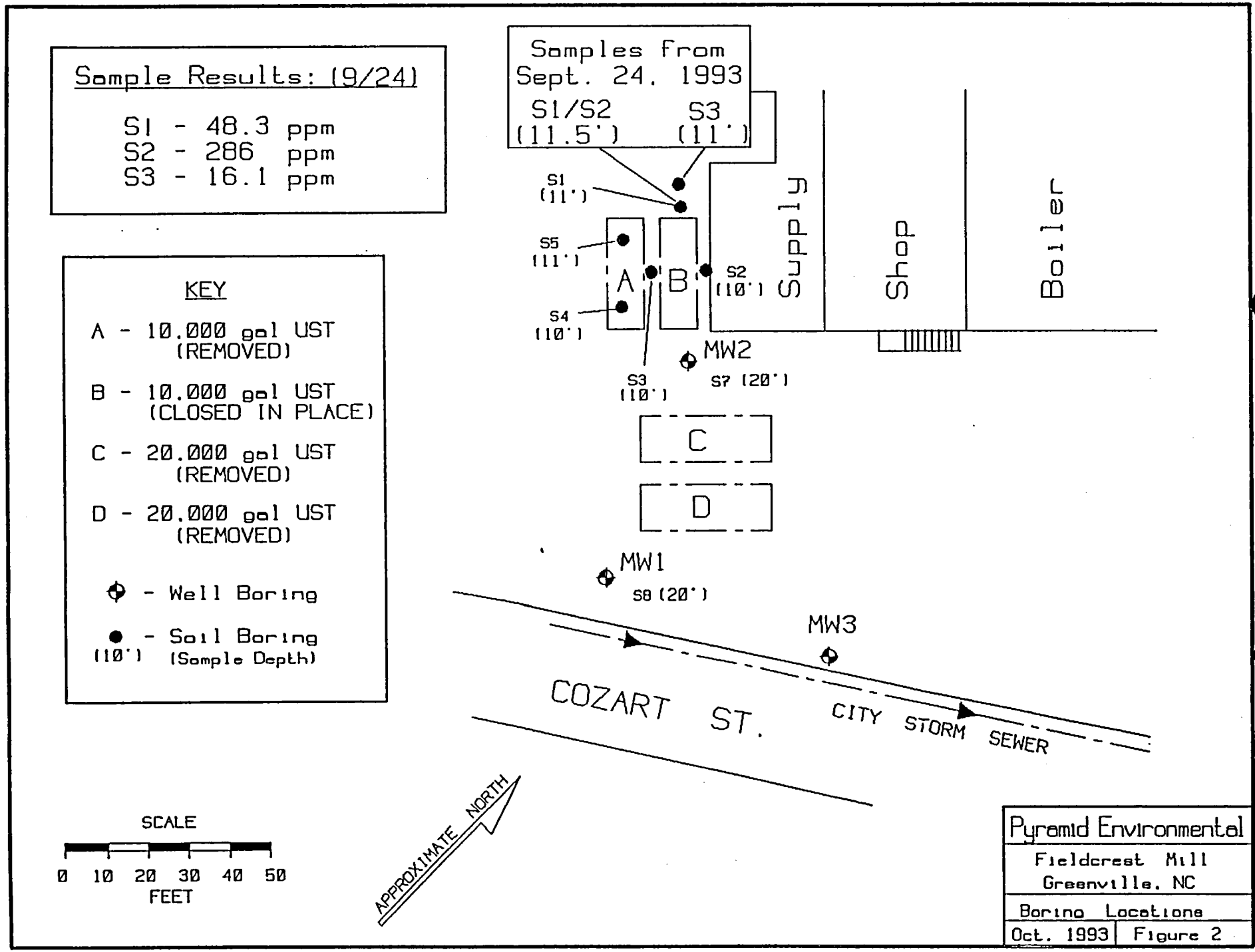
The soil samples from the stockpiles of soil removed during excavation of the USTs showed a maximum TPH concentration of 185 ppm by method 3550. NC-DEHNR guidelines state that stockpiled soil with TPH concentrations below the SSE clean-up level may be disposed of by land- application in accordance with DEHNR regional office specifications with the filing of appropriate permits. The soil may not be used for fill material or other non-conforming uses unless the TPH concentrations are below DEHNR reportable limits (40 ppm for method 3550).

Pyramid Environmental recommends that a plan be developed for remediation and/or disposal of the stockpiled soil, and appropriate permit applications be filed with the state. One option is to disposes of the soil by land-application at minimum rates. This involves spreading the soil out approximately one-inch thick and mixing it with the native soil, then seeding the area and allowing it to lie unused for approximately 18 months, or until the remediation is complete. For the approximately 8 cubic yards of soil in the two stockpiles, this would require a minimum of 1/10 acre of land area.



SCALE: 1" = 12,500'

PYRAMID ENVIRONMENTAL	
Fieldcrest Mill Greenville, NC	
Site Location Map	
July, 1993	Figure 1


Sample Results: (9/24)
S1 - 48.3 ppm
S2 - 286 ppm
S3 - 16.1 ppm
KEY
A - 10,000 gal UST (REMOVED)
B - 10,000 gal UST (CLOSED IN PLACE)
C - 20,000 gal UST (REMOVED)
D - 20,000 gal UST (REMOVED)
- Well Boring
- Soil Boring
(10') (Sample Depth)
Samples from Sept. 24, 1993
S1/S2 (11.5')
S3 (11')
S1 (11')
S5 (11')
S4 (10')
S2 (10')
S3 (10')
A
B
C
D
Supply
Shop
Boiler
MW2
S7 (20')
MW1
S8 (20')
MW3
COZART ST.
CITY STORM SEWER
APPROXIMATE NORTH
SCALE
0 10 20 30 40 50
FEET
Pyramid Environmental
Fieldcrest Mill
Greenville, NC
Boring Locations
Oct. 1993
Figure 2

APPENDIX I

Sampling Methodology

Samples 1 and 2 were taken from the same hand augered boring at a depth of 11.5 feet. Sample 3 was taken from a second boring at a depth of 11 feet. The hand auger was washed with distilled water and Alconox, and then rinsed with distilled water before and after the first boring. There are two stockpiles adjacent to each other on the property which contain soil excavated from the former UST location. Using a decontaminated hand auger, two soil samples were collected from varying locations and depths within each stockpile. Each sample was a composite, mixed in a clean, decontaminated bucket by hand, wearing clean, disposable plastic gloves. Samples 1, 2, 3 and the two composite samples were placed in glass jars with tight lids, labeled, and placed in an ice chest maintained at a temperature of approximately 4° Celsius until analysis by the laboratory.

APPENDIX II

Laboratory Analysis and Chain of Custody

Burlington Research

Analytical Services • Aquatic Bioassay Testing • Aquatic Toxicity Reduction Evaluations
AATCC Testing Services • NPDES Testing • Reporting & Data Handling Services
PMN Aquatic Bioassay Evaluations

Post Office Box 2481 • 615 Huffman Mill Road • (919) 584-5564 • Burlington, NC 27216-2481

EPA METHOD 3550 WITH CAPILLARY GC METHOD

TOTAL PETROLEUM HYDROCARBONS - TYPE III IN SOILS

WORK ORDER #: 93-09-434-01

TPH: 48.3 mg/Kg (ppm)

TPH Standard used: Fuel Oil #6

% Recovery of Standard: 110

% Solids: 78

Use of GC procedure for TPH-III fuel oils approved by Connie Crossley, NCDEM.

Burlington Research

Analytical Services • Aquatic Bioassay Testing • Aquatic Toxicity Reduction Evaluations
AATCC Testing Services • NPDES Testing • Reporting & Data Handling Services
PMN Aquatic Bioassay Evaluations

Post Office Box 2481 • 615 Huffman Mill Road • (919) 584-5564 • Burlington, NC 27216-2481

ANALYTICAL REPORT

CUSTOMER: FIELDCREST CANNON, INC.
FACILITY: Laurel Hill Carpet Mill
REPORT TO: Ms. Barbara Sifford

SAMPLE: Greenville
#2 Grab 9/24/93

WORK ORDER #: 93-09-435-01

COLLECTED: 09/24/93
RECEIVED: 09/25/93
REPORTED: 10/14/93

PARAMETER	METHOD	STARTED	ANALYZED	RESULT
EPA 9071 O&G, (TPHIII)	EPA 9071	10/07/93	10/11/93	286 mg/Kg Dry Wt.

Reports must be received by the 14th of the month following sampling.
Send Copy of report to: Pyramid Env. 2706 Pinedale Rd. Greensboro, NC 27408 Attn: Mr. Doug Caravello

Burlington Research

Analytical Services • Aquatic Bioassay Testing • Aquatic Toxicity Reduction Evaluations
AATCC Testing Services • NPDES Testing • Reporting & Data Handling Services
PMN Aquatic Bioassay Evaluations

Post Office Box 2481 • 615 Huffman Mill Road • (919) 584-5564 • Burlington, NC 27216-2481

EPA METHOD 3550 WITH CAPILLARY GC METHOD

TOTAL PETROLEUM HYDROCARBONS - TYPE III IN SOILS

WORK ORDER #: **93-09-434-02**

TPH: 16.1 mg/Kg (ppm)

TPH Standard used: Fuel Oil #6

% Recovery of Standard: 110

% Solids: 67

Use of GC procedure for TPH-III fuel oils approved by Connie Crossley, NCDEM.

Burlington Research

[redacted]ytical Services • Aquatic Bioassay Testing • Aqua[redacted]oxicity Reduction Evaluations
AATCC Testing Services • NPDES Testing • Reporting & Data Handling Services
PMN Aquatic Bioassay Evaluations

Post Office Box 2481 • 615 Huffman Mill Road • (919) 584-5564 • Burlington, NC 27216-2481

EPA METHOD 3550 WITH CAPILLARY GC METHOD

TOTAL PETROLEUM HYDROCARBONS - TYPE III IN SOILS

WORK ORDER #: 93-09-435-02

TPH: 185 mg/Kg (ppm)

TPH Standard used: Fuel Oil #6

% Recovery of Standard: 115

% Solids: 87

Use of GC procedure for TPH-III fuel oils approved by Connie Crossley, NCDEM.

Burlington Research

Analytical Services • Aquatic Bioassay Testing • Aquatic Toxicity Reduction Evaluations
AATCC Testing Services • NPDES Testing • Reporting & Data Handling Services
PMN Aquatic Bioassay Evaluations

Post Office Box 2481 • 615 Huffman Mill Road • (919) 584-5564 • Burlington, NC 27216-2481

EPA METHOD 3550 WITH CAPILLARY GC METHOD

TOTAL PETROLEUM HYDROCARBONS - TYPE III IN SOILS

WORK ORDER #: 93-09-435-03

TPH: 80.0 mg/Kg (ppm)

TPH Standard used: Fuel Oil #6

% Recovery of Standard: 115

% Solids: 71

Use of GC procedure for TPH-III fuel oils approved by Connie Crossley, NCDEM.

Burlington Research
615 Huffman Mill Road
Burlington, NC 27215
(919) 584-5564
Fax (919) 584-5564, Ext. 202

CHAIN OF CUSTODY RECORD

CLIENT: Fieldcrest Cannon
CONTACT PERSON: Barbara Sifford
Facility/Site: Greenville
Phone Number: (704) 939-2654
Sampler: (Print) J Granella (Signature)
Purchase Order #: 80-608590

SAMPLE ID	SAMPLE COLLECTION		SAMPLE TYPE			NO. OF CONTAINERS SENT	ANALYSES REQUIRED	FOR LAB USE ONLY		
			COMPOSITE		GRAB			SAMPLE INTEGRITY	TEMPERATURE (4°C)	PRESERVATION
	DATE TIME STARTED	DATE TIME ENDED	HAND	AUTO						
#1	9/24	10:30			✓	1	#5 Fuel 0:1 (24 Hour Turnaround)			
#2		1:30				1	0:1 & Grease Normal Turn			
#3		10:30					#5 Fuel 0:1 ~~Normal Turn~~ 24 Hour TURN			
Comp 1 (South)		1:30	Per J. Granella				#5 Fuel 0:1 ~~24 Hour TURN~~ NORMAL TURN			
Comp 2 (North)		1:30					#5 Fuel 0:1 ~~24 Hour TURN~~ NORMAL TURN			
MW-1 through MW-3		1:30					625 for 1 liter & 602 & Xylenes NORMAL TURN			
Exc #4		1:30					625 for 1 liter & 602 & Xylenes NORMAL TURN			

FOR CLIENT USE:

Relinquished by: (Signature) J Granella	Received by: (Signature)	Date: 9/24	Time: 7:15 PM
Shipped by: (Signature)	Received by: (Signature)	Date:	Time:
Method of Shipment:			

FOR LAB USE ONLY

Received in Lab FROM: (Signature)	Received for Lab BY: (Signature)	Date: 9/25/93	Time: 11:20
Method of Shipment: HAND		Sample Integrity Comment:	